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COST ANALYSIS OF THE JIGSAW PROGRAMME

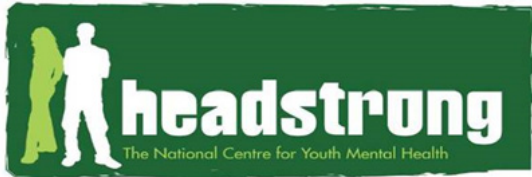
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Executive Summary

The establishment of a Jigsaw site in a local community requires close and ongoing collaboration between the community and Headstrong to insure fidelity to the model and proper use of resources. Headstrong assumes an approximate three-year installation process between site selection to full implementation. The resources required to install, fully implement, and sustain a Headstrong site in a given community can be portrayed based on Headstrong's experience over the past five years.

Describing what a typical site currently costs is complicated because each has a unique history, revenue sources vary considerably across sites, and not all are funded in a manner that is fully sustainable at present. Nonetheless, it is possible to summarise what has been learned about the cost of deploying a fully functioning and sustainable Jigsaw site. These estimates are based in part on retrospective analysis of current sites, but they are also based on what the necessary and sufficient costs are likely to be going forward for a programme that must be done well to be effective.

Based on historical financial data, it can be estimated that the five-year cost of developing, installing, and supporting a new Jigsaw site in a given community is €4,500,000, or about €900,000 on an annualised basis. Once established, the programme would require a consistent level of funding (€1,000,000 / annum) on an on-going basis in subsequent years.

There are currently eleven sites operating with various levels of support. The cost analysis raises the question of the commitment required to adopt the model in full for the entire country at a level consistent with the need (to be phased in over several years). Headstrong estimates that such a commitment would require full implementation in thirty (30) sites. Thus, the total cost of implementing the programme on an annualised basis in thirty (30) communities at full implementation (and in 2012 Euros) would be about €30,000,000 per annum. Not all of these costs would need to be borne by government.

Once the programme reaches full national coverage and sites are operating at full implementation, Headstrong expects the programme to have the capacity to provide brief, direct, early intervention support to 45,000 young people per year (roughly 6% of the total population of 12 to 25 year olds).

Introduction to the Economic Justification

Headstrong's overall mission is to change how Ireland thinks about young people's mental health through research, advocacy and service development. The Jigsaw model of service delivery is Headstrong's response to the challenge of transforming how young people in Ireland access mental health support and attain positive developmental outcomes. Jigsaw brings services and supports together to insure that every young person has **one good adult** in their life to support them, whatever their level of need. Thus, Jigsaw seeks to: (1) ensure access to youth friendly integrated mental health supports when and where young people need them, (2) build the confidence and capacity of front line workers to directly support young people and to connect them to Jigsaw, and, (3) promote community awareness around youth mental health to enhance understanding of young people and the risk and protective factors that contribute to their mental health and well-being.

The Jigsaw model is aligned with the philosophy underlying the Health Service Executive's (HSE) Primary Care Strategy, which is defined as "...an approach to care that includes a range of services designed to keep people well, from promotion of health and screening for disease to assessment, diagnosis, treatment and rehabilitation as well as personal social services. The services provide first-level contact that is fully accessible by self-referral and have a strong emphasis on working with communities and individuals to improve their health and social wellbeing." The Primary Care Strategy highlights many of the defining features of the Jigsaw model, including easy access, the need to span a spectrum of activities from mental health promotion to intervention, and the importance of being embedded within communities.

The Jigsaw model offers a service to young people that complements, strengthens, and integrates mental health services and supports currently available within the primary care system. Given that mental health problems are implicated in a great number of primary care consultations (depression is the third most common reason for GP consultation), and that 75% of mental health problems occur prior to age 25 (most emerging during adolescence and young adulthood), investment in youth mental health through a primary care approach makes considerable sense.

The Jigsaw model offers a service to young people that complements, strengthens, and integrates mental health services and supports currently available within the primary care system.

Moreover, Jigsaw is a multi-systemic early intervention and prevention model. In this context, it:

- Promotes **positive mental health** for young people by deploying strategies that target the whole population to enhance strengths, thereby reducing the risk of subsequent negative outcomes (e.g., community-level mental health awareness training);
- Utilizes **universal prevention strategies** designed to address risk factors in the whole population without attempting to discern which young people are at elevated risk (e.g., anti-stigma media campaigns and youth advocacy);
- Targets groups of **young people at risk** for developing mental health difficulties through selective prevention strategies (e.g., Youth Centred Practice training for front-line providers);
- Provides indicated early intervention/prevention supports and services for young people with mild / emerging mental health difficulties (e.g., brief interventions delivered through the Jigsaw Hub).

When fully operational, Jigsaw sites can occupy an important space in the community mental health services “landscape”. The programme is not intended to supplant other forms of mental health care and support, but rather to complement and help integrate them. A typical Jigsaw project is designed to have capacity to provide direct support for about 6% of a community’s youth population aged 12-25 years, but reaches a far greater number indirectly through capacity-building and outreach.



How are the Four Papers Organised?

This series of papers synthesises a wealth of available information about the mental health of young people in Ireland in order to: (1) describe the prevalence and complexity of mental ill-health among young people in the context of the present system of mental health services and supports, (2) establish some parameters for the direct and indirect economic cost of youth mental ill-health to Irish society, and in particular, to government, (3) specify the costs and presumed benefits of adopting Jigsaw as a key component of the youth mental health “landscape”, and, (4) summarise the core economic justification for the model.

Paper 1 (Need Analysis and Programme Description) provides context for the economic evaluation of Jigsaw by discussing issues such as: Why focus on the mental health of young people? What is it like to come of age in 21st century Ireland? What are the mental health needs of young people in Ireland? What is the magnitude of problems experienced by young people? What international evidence exists regarding youth mental health and systems design? What is the Jigsaw model and how does it address these needs? Where does Jigsaw fit in the “landscape” of youth mental health services and supports? What potential impact will it have? What has been accomplished to date?

1

Paper 2 (Economic Burden and Cost to Government Analysis) reviews the literature on estimation of the global burden of ill-health across the world, with specific focus on mental health. Then, extrapolating from Headstrong’s My World Survey and other population surveillance data sources, an estimate of the global burden of youth mental ill-health in Ireland is calculated. The paper goes on to describes, in considerable detail, the specific cost to government of youth mental health programmes, services and supports across various expenditure “streams and tributaries” in health, mental health, education, justice, youth services, and related sectors.

2

Paper 3 (Jigsaw Cost Analysis) provides detailed description of the cost of selecting, installing, operating, and supporting a Jigsaw site based on data gleaned from demonstration sites, and establishes cost projections associated with scale-up activities.

3

Paper 4 (Cost Benefit Analysis) discusses how adoption of the Jigsaw programme, as an integrating element of the system of care and support for young people, can avert costs and improve mental health outcomes for young people. It then examines the benefits of a transformed system of services and supports that includes Jigsaw as a core early intervention and prevention element. The paper concludes with specific (and verifiable) hypotheses about how Jigsaw is likely to yield cost offsets that justify its incorporation by government into the system of services and supports.

4

Installing, Implementing, and Sustaining a Jigsaw Site

By early 2011, Headstrong had consolidated the learning from demonstration projects, resulting in a comprehensive Operations Manual that outlined the requirements and standards for all local initiatives. Concurrently, as part of the planning process for replication (scaling up), Headstrong also delineated the process for building a single site, from initial site selection through to full implementation. This process involves several phases, each of which has resource requirements which can be described and quantified in terms of cost.

The establishment of a Jigsaw site in a local community requires close and ongoing collaboration between the community and Headstrong to insure fidelity to the model and proper use of resources. Headstrong assumes an approximate three-year installation process between site selection to full implementation. In broad form, the installation phases are as follows:

- **Adoption & Programme Installation** - 7 months & 6 months
- **Initial Implementation** - 12 months
- **Consolidation** - 11 months
- **Sustained** - After 3 years the programme will be operating at a steady state

Profile of a Site at Full Implementation



Headstrong's Continuing Role

When fully installed and operational, it is expected that Headstrong sites will continue to build capacity and refine the innovation to insure effective implementation.

HEADSTRONG'S ROLE IN ONGOING SITE SUPPORT

Integration and coordination



Relationship management with central organisation

- Communication about policies and procedures
- General guidance and support
- Integration with other projects
- Standardisation
- Quality control
- Linking local & national YAPs

Jigsaw Learning Network

- Sharing learning across sites
- Innovation
- Mutual support

Clinical Support & Governance



- Coordination of clinical governance at local level
- Facilitating integration with HSE structures
- Establishing/monitoring clinical governance guidelines locally
- Developing referral pathways, system re-engineering
- Training and support for clinical coordinators
- Promoting best practices
- Risk management
- Clinical initiatives

Data Management & Evaluation



- Training and implementation of online data system
- Ensuring data quality
- Implementation of fidelity measurement
- Data gathering
- Establishment & monitoring of data protection standards
- Promoting data utilisation through ongoing consultation
- Ensuring compliance with data protection standards
- Integration with national evaluation
- Periodic reports
- Programme fidelity & quality assurance
- Regulation

Training



- Core training and support for Hub staff
- YCP training & support for participating organisations
- Understanding youth mental health
- Minding youth mental health
- Community mental health awareness
- Training development
- Train the trainers
- Youth Engagement Training

Fund-raising



- Supporting fund-raising strategies
- Conducting fund-raising events
- Ensuring proper accounting

Communications



- Developing communications strategies
- Assisting w/ public relations (press releases, launches, events)
- Website support
- Networking
- Sharing learning

National Support



- Youth mental health advocacy
- Coordination of issues and initiatives
- Collaboration with other youth organisations
- Coordination with government
- Communicating with various professional communities of practice
- Interacting with thought leaders
- Research
- Anti-stigma campaigns
- HR/Finance/Admin/IT Supports

What Does a Typical Site Cost Over a Five Year Period?

As of early 2013, there are eleven (11) Jigsaw projects underway across Ireland, with a variety of underlying funding sources and strategies. Communicating about what a typical site currently costs is complicated because each has a unique history, revenue sources vary considerably across sites, and not all are funded in a manner that is fully sustainable at present.

This section will describe what has been learned about the cost of deploying a fully functioning and sustainable Jigsaw site. These estimates are based in part on retrospective analysis of current sites, but they are also based on what the necessary and sufficient costs are likely to be going forward for a programme that must be done well to be effective.

Programmatic Resources in a Typical Site

A generic model anticipates core Hub staffing of:

- **1.0 WTE Programme Manager** (*with responsibility for developing and managing the initiative*)
- **1.0 WTE Clinical Co-ordinator** (*with therapeutic skills to support young people, supervise support workers, and consult with staff*)
- **3.0 WTE Youth Mental Health Support Workers** (*to engage directly with young people in the Hub and to outreach to young people and partner organisations in the local community*)
- **0.5 WTE Youth Engagement Officer** (*to shape, supervise and guide young people's involvement*)
- **1.0 WTE Hub Office Admin Officer**
- **0.5 WTE Community Engagement Officer**

It has been our experience that other components and services can become incorporated into the site feasibly as the programme attracts like-minded collaborators across the systems and sectors, as grant and other funding opportunities emerge, and as new needs are identified. The above configuration should therefore be seen as a base from which the programme can grow.

The generic model described here also anticipates an operational budget for the Hub, which includes costs such as premises rental and maintenance, supplies and equipment, phone and Internet, travel, communications and promotion, utilities, printing and copying, training, insurance, fees, and other incidental expenses.

Jigsaw programmes rely heavily on collaboration with community partner organisations comprised of local schools, youth services, family support services, probation services, community services and other key players. Community partners are essential for the promotion of the service to young people and are also part of the support network. These community partners also employ front-line workers who engage with young people every day as their core job, so their buy-in is critical.

Community partners give staff time to be trained in Youth Centred Practice (YCP) and, following training, dedicate part of their working week to support young people's mental health by using the training they have received. In effect, they become direct service providers, extending the reach of the model into settings where young people spend much of their time. These partner workers also link with each other and with the clinical coordinator (based in the Hub). They capture data about their services on Headstrong's online data management system.

HSE statutory mental health services are also key to the success of a Jigsaw project. In most instances, the HSE helps to resource the clinical co-ordinator through a secondment or similar arrangement. Sessional staff from the HSE may also provide services within the Hub or elsewhere. The clinical co-ordinator and programme manager work closely with the HSE to identify clear pathways in and out of specialist care for young people.

In addition to the local resources required as outlined above, local sites also require the support and direction of Headstrong central office resources. These supports vary over time. In the first year of operation, Headstrong's support is focused on needs and resource assessment and planning, establishing project governance and clinical governance, establishing meaningful youth engagement structures, initial training for Hub staff, and establishing the hub and opening the doors of the Hub. Over time Headstrong's support shifts to focus more on training, clinical support, evaluation, and quality control. In addition to direct local support, Headstrong also operates national-level support programmes that are critical to the overall effort, including the Learning Network (a cross-site learning community), online data management and analytics (software designed by Headstrong to document and manage the programme), communications, fund-raising, youth advocacy, and research.

Cost Estimation for a Single Jigsaw Site

The resources required to install, fully implement, and sustain a Headstrong site in a given community can be portayed based on Headstrong's experience over the past five years. They are described here by funding source.¹ However, it should be noted at the outset that the complex and highly variable manner in which individual projects have been funded is *not sustainable*.

¹ All are shown at 2012 values.

Current patterns of revenue and expenditure are as follows:

New and re-deployed funding (local)

All Jigsaw sites have had to be highly creative in identifying both new and re-purposed funding sources to mount their programmes. The involvement of key decision-makers within the community with the authority to allocate resources has been crucial to this effort. However, the degrees of freedom to do so at local level have disappeared as the country's economic situation has worsened, and projects under development since 2011 have struggled to a considerable extent to cobble together what was needed to get started.

In the instance of the HSE Innovation Funds that supported the installation of six new sites during the 2011-2013 timeframe, some communities used the HSE contribution to support employment of a project manager and a support worker, with a bit left to help with operating costs. In these instances, the cost of one or two support workers were borne by other voluntary and statutory agencies, as were some operational expenses for the Hub, such as rent, leasehold improvements, and other running costs. In other situations, the costs of a clinical coordinator (e.g., redeployed from the HSE through CAMHS or primary care) and a part-time youth participation officer (e.g., re-allocated from the community/youth sector) were woven into the mix. In several situations, time spent by HSE service providers working as part of the network and in some cases providing services from the Hub enabled the site to begin operations.

In general, the combination of new and re-deployed funding during the development year averaged around €225,000. In subsequent years, as the programme became fully operational, site-based funding for fully implementation leveled off at about €550,000.

Local matching (in-kind)

This category reflects the time and resource commitment of local partners to participate in the needs and resource assessment, the planning team, governance structures to monitor the implementation, and allocation of staff time to work as part of the Headstrong network to support young people (following YCP training). While there was no specific direct cost involved, these contributions had real value and were crucial to the process. The value of this funding source at the development stage (Year 1) was estimated to be approximately €75,000, but as the programme grew it leveled off at about €150,000.

Headstrong support funding

As indicated previously, Headstrong plays a major role in the development and implementation of the programme, including both local and national support activities. The costs reflected in the resource contribution that enables Headstrong to perform its role include the team to support the development, implementation, evaluation, and supervision of local efforts (e.g., relationship manager, clinical support, training, planning, evaluation, MIS, finance/ fundraising, communications, and senior management time). Headstrong costs also include support for the Jigsaw programme operation (e.g., overhead, administration, national youth engagement and advisory panel, and central management/ office support). The average cost of Headstrong's contribution, during the planning year was approximately €150,000, and as the programme becomes operational, it was €200,000.

If the Jigsaw programme is to be maintained and taken to scale, a sustained financial commitment from government is an absolute necessity.

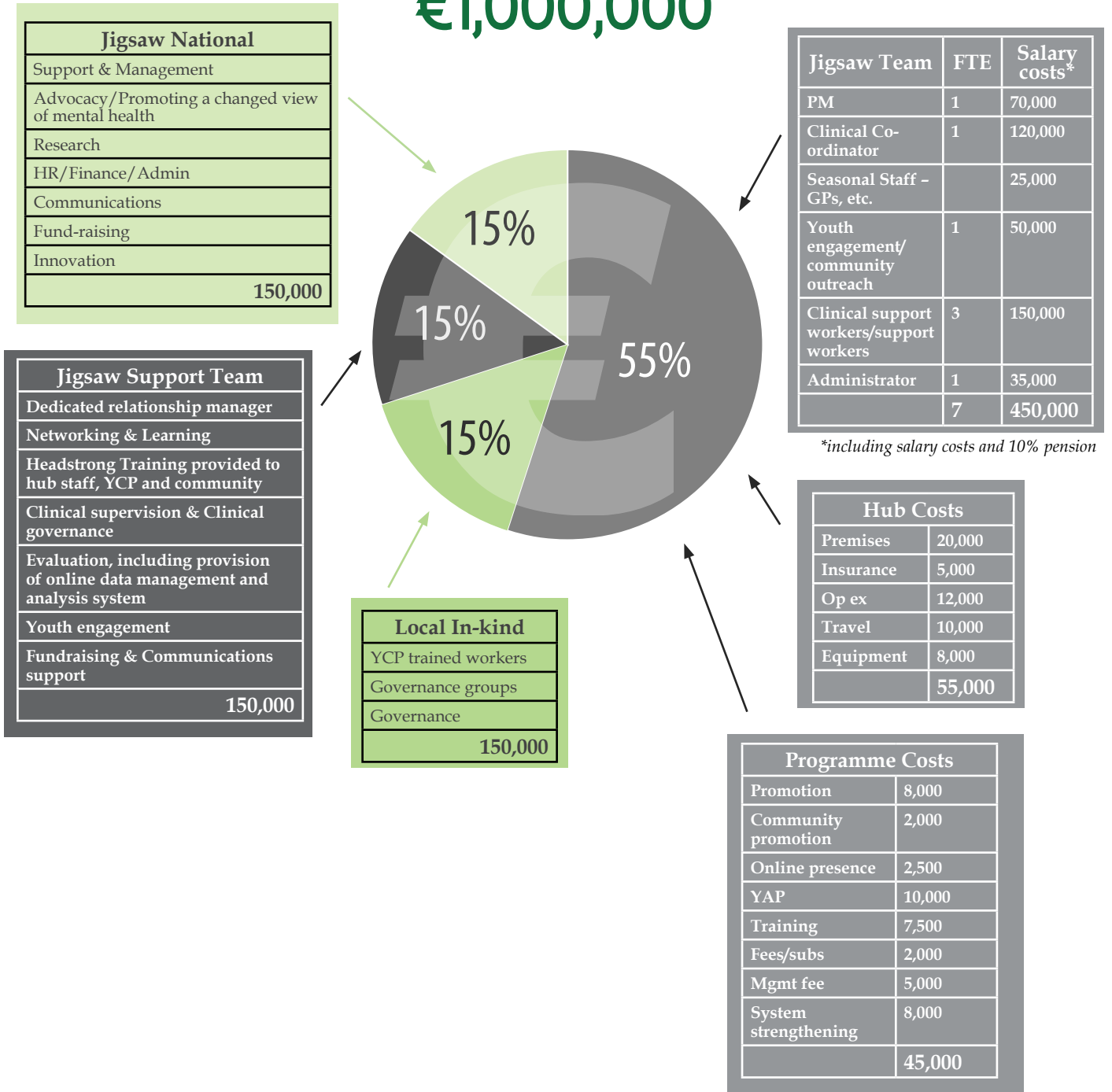
In sum, based on historical financial data, it can be estimated that the five-year cost of developing, installing, and supporting a new Jigsaw site in a given community is €4,500,000, or about €900,000 on an annualised basis. Once established, the programme would require a similar level of funding (€1,000,000 / annum) on an on-going basis in subsequent years. These data are shown in the table below.

Cost by Year	Local New & Re-Deployed Funds	Local In-Kind	Headstrong Local support	Headstrong National	Total Cost
Adoption & Installation					
Year 1	€225,000	€75,000	€150,000	€50,000	€500,000
Initial Implementation					
Year 2	€550,000	€150,000	€150,000	€150,000	€1,000,000
Consolidation					
Year 3	€550,000	€150,000	€150,000	€150,000	€1,000,000
Steady State					
Year 4	€550,000	€150,000	€150,000	€150,000	€1,000,000
Steady State					
Year 5	€550,000	€150,000	€150,000	€150,000	€1,000,000

The graphic below provides a more detailed breakout of the annual cost of a Jigsaw site at full implementation stage.

Total Annual cost of a Jigsaw Site at Full Implementation =

€1,000,000



Can Jigsaw be Replicated to Achieve Full National Coverage?

This above analysis raises the question of what it would cost government to adopt the model in full and commit to coverage of the entire country at a level consistent with the need. Headstrong estimates that such a commitment would require thirty (30) sites. Thus, the total cost of implementing the programme on an annualised basis in thirty (30) communities at full implementation (and in 2012 Euros) would be €30,000,000 per annum. Because €4,500,000 of this total would be in-kind contributions, the overall cost to government would be €25.5 million, or €850,000 per site.

The section that follows provides an analysis of how the thirty sites would be arrayed, describes the impact (market penetration) such a programme deployment would have on communities and the number of young people reached at full implementation, and speculates on one scenario for upscaling the programme in which full implementation would be achieved by 2017.

Site Locations

For the purposes of the present analysis, it is assumed that a typical (average) Headstrong site will support a population area of between 125,000 and 200,000 (on average about 152,000). The table below summarises Headstrong's projection of thirty (30) programme locations to achieve full national coverage. These data are based on 2011 CSO population distributions.

County / City	2011 Total Population
Dublin City (3 sites)	525,383
Dun Laoghaire-Rathdown	206,995
Fingal (2 sites - N Fingal & Dublin 15)	273,051
South Dublin County (2 sites - Tallaght & Clondalkin)	265,174
Kildare	210,312
Kilkenny and Carlow	150,031
Laois and Offaly	157,246
Longford and Westmeath	125,164
Louth	122,837
Meath	184,135
Wexford	145,320
Wicklow	136,640
Clare	117,196
Cork (3 sites)	519,032
Kerry	145,502
Limerick	191,809
Tipperary (North & South)	158,754
Waterford	113,795
Galway & Roscommon (2 sites)	314,718
Leitrim and Sligo	97,048
Mayo	130,638
Cavan and Monaghan	133,666
Donegal	161,137

Issues of Scope and Scale

Given that the average site has a population base of 152,000, the average size of the youth population (12-25) in a typical community is about 25,000 (based on a national population proportion of 16.7%). Thus, assuming that about 20% of young people experience significant distress in a given year (as research supports), the target population of concern (for mental ill-health) would be about 5,000 young people “at risk” (in need of support), per community.

Not all of these “at risk” young people need direct support from this programme or other formal mental health programmes. Based on 2011 My World Survey data, it seems likely that perhaps 50% of these (about 2,500 young people) will have family, friends and community resources available to provide necessary supports. In these instances, the programme’s role is to empower natural supports to deal more comfortably and capably with their young people.

Another 35% (about 1,750 young people) may have mild to moderate concerns but not have available supports. In these instances, the programme can serve as a vehicle for the delivery of direct and timely support through its drop-in centre or the YCP-trained provider network. At full implementation, Headstrong projects that a fully developed site would have the capacity to provide brief support and early intervention for 1,500 young people per year (taking into account both Hub and YCP network direct supports). The intention of providing such support early is, in part, to prevent problems from progressing to more severe stages, which would place even greater stress on the present mental health system.

Most of the remaining individuals (perhaps 750 in a given catchment area) are likely to already have come to the attention of one or more service systems, and some will already be engaged with more specialized services (CAMHS, AMH, hospital-based programmes). Some of these individuals may come to the attention of the Jigsaw programme, either at the drop-in centre (Hub) or in some other venue. Preliminary data from Galway suggests that in a given year, perhaps fifty (50) individuals in need of higher levels of care seek assistance, and these are linked with the appropriate services. Jigsaw’s role in these instances is to facilitate pathways in and out of care.

Scaling Up to Full Coverage

Headstrong has modeled various plans to realise the full network of 30 sites. One such scenario, in which full implementation would be achieved by 2017, is represented in the table below. Based on the annual cost estimates discussed previously, the table below shows the total estimated cost per year (from all sources) for implementing the programme.

Projected Timetable for Upscaling	2013	2014	2015	2016	2017	2018	2019
# of operational sites at beginning of year	11	14	17	20	23	26	30
# of sites under development	3	3	3	3	3	4	-
# of sites in full operation at end of year	11	14	17	20	23	26	30
Young people supported through early intervention/direct support	16,500	21,000	25,500	30,000	34,500	39,000	45,000
Young people supported through indirect supports (<i>system strengthening</i>)	27,500	35,000	42,500	50,000	57,000	65,000	75,000
Young people supported through indirect supports (<i>mental health promotion at community-level</i>)	88,000	112,000	136,000	160,000	184,000	208,000	240,000
Total estimated cost (all sources)	€13.5m	€15.5m	€18.5m	€21.5m	€24.5m	€27.5m	€30.0m

Once the programme reaches full national coverage and sites are operating at full implementation, Headstrong expects the programme to have the capacity to provide brief, direct, early intervention support to 45,000 young people per year (roughly 6% of the total population of 12 to 25 year olds). A much larger number of young people will be touched by the programme in an indirect fashion.

Impact

The graphic below reiterates the impact that a fully functioning Jigsaw site can have on a community.²

